

What is claimed is:

1. An apparatus for processing and transmitting a signal, the apparatus comprising:

a splitter configured to split an input signal into two or more signals comprising a first signal and a second signal;

an interleaver configured to interleave the first signal to provide a first interleaved signal;

a first multiplier configured to multiply the first interleaved signal with a first code to provide a first coded signal;

a second multiplier configured to multiply the second signal with a second code to provide a second coded signal; and

a transmission unit configured to transmit the first coded signal and the second coded signal.

2. The apparatus of Claim 1, further comprising a delay configured to delay the second coded signal to provide a time-delayed second coded signal, wherein the transmission unit is configured to transmit the time-delayed second coded signal in lieu of the second coded signal.

3. The apparatus of Claim 1, wherein the first and second signals are identical.

4. The apparatus of Claim 1, further comprising:

a converter configured to convert an input data into a plurality of bit streams;

a modulator configured to modulate the plurality of bit streams to provide modulated signals; and

an adder configured to add the modulated signals and provide the summed signal as the input signal to the splitter.

5. The apparatus of Claim 4, wherein the modulator is configured to modulate each of the plurality of bit streams in conjunction with a Walsh code.

6. The apparatus of Claim 4, wherein at least one of the first and second codes is orthogonal to a code with which at least one of the plurality of bit streams is modulated.

7. The apparatus of Claim 1, wherein the second code is a Gold code.

8. The apparatus of Claim 1, wherein the transmission unit comprises one or more antennas, and wherein the first coded signal and the second coded signal are configured

to be transmitted through a single antenna.

9. The apparatus of Claim 8, further comprising an antenna selector configured to select the single antenna from the one or more antennas.

10. The apparatus of Claim 1, wherein the transmission unit comprises at least one antenna, and wherein the transmission unit is configured to transmit the first coded signal and the second coded signal through the at least one antenna.

11. The apparatus of Claim 1, wherein at least one of the first and second codes is orthogonal to a code with which the input signal is pre-modulated.

12. The apparatus of Claim 1, wherein the two or more signals further comprise a third signal, wherein the apparatus further comprises a third multiplier configured to multiply the third signal to provide a third coded signal, and wherein the transmission unit is further configured to transmit the third coded signal.

13. The apparatus of Claim 12, further comprising:

a second delay configured to delay the second coded signal to provide a time-delayed second coded signal;

a third delay configured to delay the third coded signal to provide a time-delayed third coded signal; and

wherein the transmission unit is configured to transmit the time-delayed second and third coded signals in lieu of the second and third coded signals, respectively.

14. The apparatus of Claim 13, wherein the second delay is configured to delay the second coded signal for a second delay period, wherein the third delay is configured to delay the third coded signal for a third delay period, and wherein the second and third delay periods are different from each other.

15. The apparatus of Claim 1, wherein the apparatus comprises a mobile phone.

16. An apparatus for processing and transmitting a signal, the apparatus comprising:

means for splitting an input signal into two or more signals comprising a first signal and a second signal;

means for interleaving the first signal to provide a first interleaved signal;

means for multiplying the first interleaved signal with a first code to provide a

first coded signal;

means for multiplying the second signal with a second code to provide a second coded signal; and

means for transmitting the first coded signal and the second coded signal.

17. A method for processing and transmitting a signal, the method comprising:

splitting an input signal into two or more signals comprising a first signal and a second signal;

interleaving the first signal to provide a first interleaved signal;

multiplying the first interleaved signal with a first code to provide a first coded signal;

multiplying the second signal with a second code to provide a second coded signal; and

transmitting the first coded signal and the second coded signal.

18. The method of Claim 17, further comprising delaying the second coded signal to provide a time-delayed second coded signal, wherein the time-delayed second coded signal is transmitted in lieu of the second coded signal.

19. The method of Claim 17, further comprising:

converting an input data into a plurality of bit streams;

modulating the plurality of bit streams to provide modulated signals; and

adding the modulated signals and provide the summed signal as the input signal for the splitting.

20. The method of Claim 19, wherein the modulation of at least one of the plurality of bit streams is carried out in conjunction with a Walsh code.

21. The method of Claim 19, wherein at least one of the first and second codes is orthogonal to a code with which at least one of the plurality of bit streams is modulated.

22. The method of Claim 17, wherein the second code is a Gold code.

23. The method of Claim 17, wherein the first coded signal and the second coded signal are transmitted through a single antenna.

24. The method of Claim 17, further comprising selecting an antenna among two or more antennas to transmit the first coded signal and the second coded signal through.

25. The method of Claim 17, wherein the two or more signals further comprise a

third signal, wherein the method further comprises:

multiplying the third signal to provide a third coded signal; and
transmitting the third coded signal.

26. The method of Claim 25, wherein the first, second and third coded signals are transmitted through a single antenna.

27. The method of Claim 25, wherein the first, second and third coded signals are transmitted through different antennas.

28. The method of Claim 25, further comprising:

delaying the second coded signal for a second delay period to provide a time-delayed second coded signal;

delaying the third coded signal for a third delay period to provide a time-delayed third coded signal; and

wherein the time-delayed second and third coded signals are transmitted in lieu of the second and second coded signals, respectively.

29. The method of Claim 28, wherein the second delay period and the third delay period are different from each other.

30. The method of Claim 17, wherein the input signal is originated from a voice.

31. One or more processor readable storage devices having processor readable code embodied on the processor readable storage devices, the processor readable code for programming one or more processors to perform a method for processing and transmitting a signal, the method comprising:

splitting an input signal into two or more signals comprising a first signal and a second signal;

interleaving the first signal to provide a first interleaved signal;

multiplying the first interleaved signal with a first code to provide a first coded signal;

multiplying the second signal with a second code to provide a second coded signal; and

causing to transmit the first coded signal and the second coded signal.